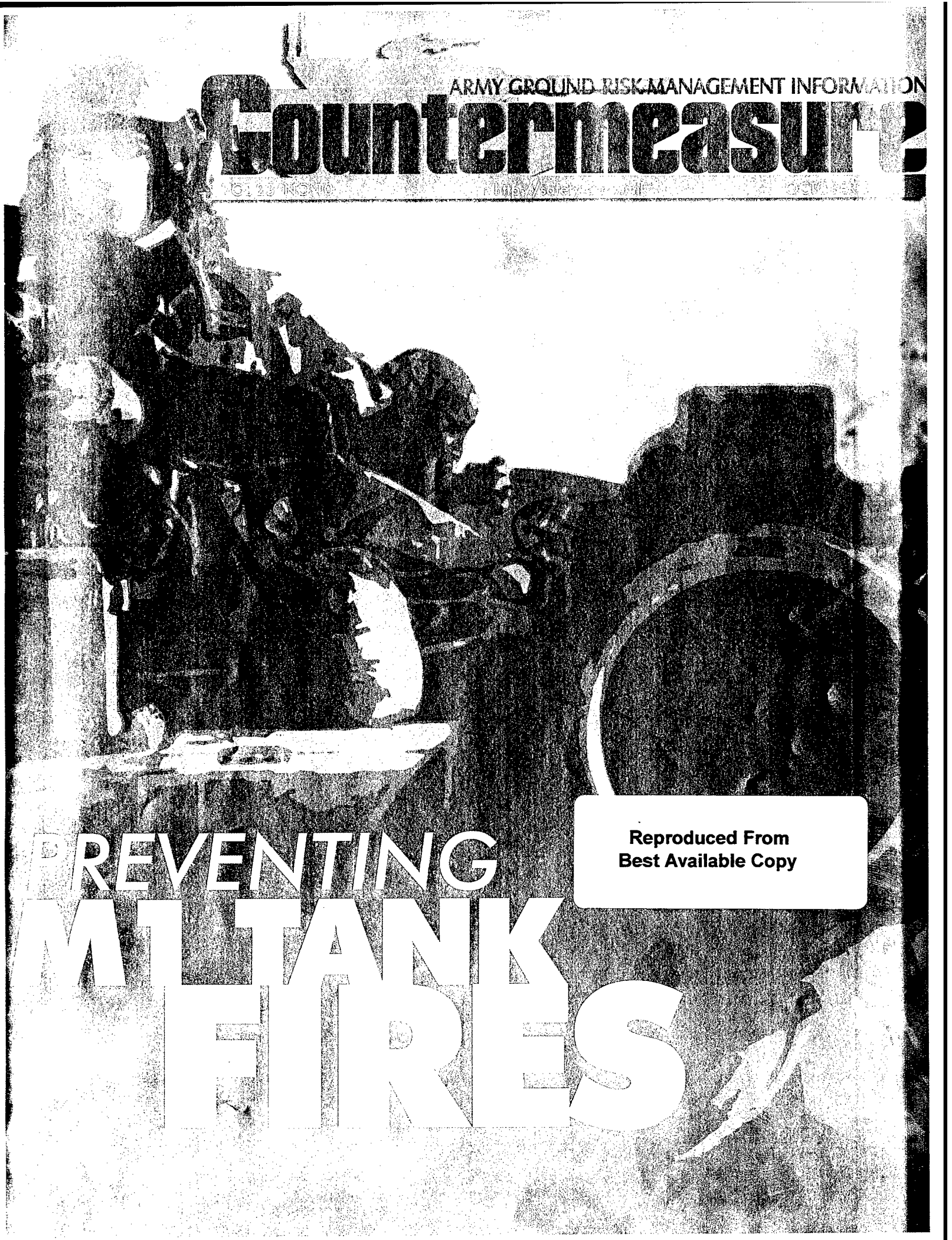
ARMY GROUND RISK MANAGEMENT INFORMATION

Countermeasure



PREVENTING ATTANK FIRES

ARMY GROUND RISK-MANAGEMENT INFORMATION

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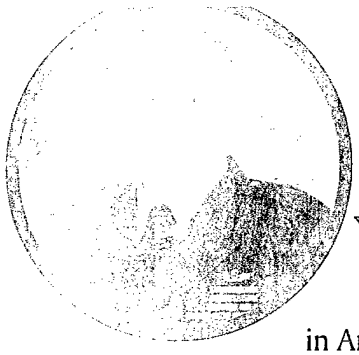


DASAF'S CORNER

From the Director of Army Safety

When the Arrows Are Pointing Up...

We didn't experience a good year in Army safety. For FY02 safety performance, the arrows representing increases or decreases in Class A accidents and fatalities are all pointing in the wrong direction—UP!

Shortly after the beginning of FY02, the call came for the Army to execute its primary mission of fighting and winning our Nation's war. This year, overall, our units have performed magnificently on the battlefield fighting this war on terrorism, protecting our installations, executing home station training, conducting training center rotations, and fielding new equipment and formations.

No one could doubt that it's been a busy year in this Army. Our deployment and redeployment rate is up compared to FY01. But hazards abound not only in combat; they are also ever-present in our training environment as well. If left uncontrolled, individual hazards can cumulatively raise risk to unacceptable levels. During FY02 we did experience some breakdowns in risk management, leadership, discipline, training, and standards, and the costly consequence has been lives lost and equipment damaged or destroyed.

A statistical summary

We experienced 206 fatalities compared to 168 last year, an increase of 23 percent. Of those 206 fatalities, 140 soldiers died in off-duty ground accidents (113 of those in POV accidents, which are still our number one killer of soldiers), 49 in on-duty ground accidents, and 17 in aviation accidents. Overall, our Class A accidents are up by about 23 percent this year and by about 17 percent over the 3-year average.

Analysis of ground fatalities reveals—

- A 143-percent increase in fatalities resulting from water activities.
- A 96-percent increase in fatalities related to training activities (11 fatalities from Army motor and combat vehicle accidents, 9 from physical exertion, 9 from explosions/fire, and 1 from a gunshot wound).
- A 53-percent increase in fatalities resulting from motorcycle accidents.
- A 2-percent increase in fatalities resulting from POV (other than motorcycle) accidents.

Analysis of aviation accidents reveals—

- Of 26 Class A accidents, 9 involved collision with the ground.
- Six involved brownout or whiteout.
- Four involved a materiel failure.
- Four involved a tree or wire strike.
- In two accidents, crews encountered inadvertent instrument meteorological conditions.
- The majority of the accidents occurred during night and single-ship missions.

Lessons learned

The business of warfighting and training for combat is inherently dangerous. Mistakes happen. Leading soldiers is an awesome responsibility and every day is not guaranteed to be smooth and fun. Mistakes are made as soldiers do their best to execute the missions and tasks we ask them to do. A zero-defects mentality is not a good thing. In fact, it leads to soldiers being hesitant to do tough, realistic training for fear that a mistake could mar their careers. We have to give young leaders an opportunity to grow and learn from their mistakes. It's important that we, as an Army, be forgiving of honest mistakes that soldiers and leaders make, but there is no forgiveness for irresponsible behavior or allowing hazardous conditions that unnecessarily put soldiers' lives in jeopardy to escalate uncontrolled.

Leaders must be technically and tactically competent and must be involved in the planning, preparation, and execution of missions. If battalion commanders are present during training events, we have fewer accidents. That means the commander must use risk management if he or she is going to avoid the micro-management image. A particular training event may be acceptable for Company A to execute on its own, while Company B is not at a level to train unsupervised.

Understandably, commanders are busy, but e-leadership is not the Army standard! It takes personal involvement and sometimes extending some of that tough love from the "old man." If you can't be present, get your most experienced people out there supervising.

What we can do in FY03

As the remainder of the FY02 field accident data continues to come in over the next few weeks, the numbers will change slightly and we will continue our analysis of the data, searching for additional hazards and developing controls that can be put in place to prevent future similar accidents. But none of our continued research or analysis will find any single silver bullet to stop this unnecessary loss of lives and damage to our equipment and make FY03 safety performance better. Reversing this upward trend in accidents will happen only if we, as leaders, adhere to the Army standard of informed risk decisions made at the appropriate level of command and enforcement of standards and discipline.

Ruthless enforcement of discipline and standards in our units is critical to improving safety performance. No Kevlar, no seatbelts, out of uniform, speeding, failing to salute a senior officer, flapping canvas—all are signs of indiscipline. A new, lower standard is set every time a leader walks by without correcting it. Increasing demands on our time does not relieve us, as leaders, of our responsibility to enforce standards and discipline.

We also know very well that flogging leaders doesn't stop accidental losses. That's not the intent here. But as an Army, we do hold leaders responsible and accountable for the safety of the soldiers entrusted to their care. With acceptance of command comes that awesome responsibility. If we, as leaders, are technically and tactically competent and are aggressively involved in planning, preparation, and execution of assigned missions, we can keep soldiers safe and do the realistic training that replicates combat conditions.

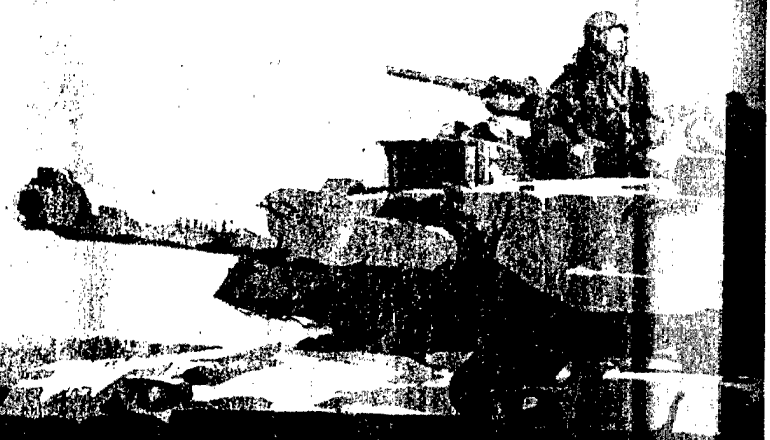
When the FY03 safety performance summary is posted, the arrows will be pointing in the right direction—DOWN—if we, as leaders, have strictly enforced standards and discipline and put the proper controls in place to mitigate risks. ⊙

Train hard, but train safely by managing risks!

BG James R. Simmons

PUT IT DOWN!

Recently, there have been numerous accidents related to M1 tanks. The majority of these accidents have involved a fire inside the tank. Tank fires are very tense situations that call for a clear head and decisive action.



In most any tank-related incident during training, the first three things you need to address are evacuation of the tank, extinguishing any fire, and shutting down the engine. In many cases, shutting down the tank is a crucial part of extinguishing the fire.

M1 engines produce a lot of power and heat. Additionally, they are loaded with electrical components, fuel, and oil, none of which are conducive to a stable atmosphere in an accident scenario. So, just how do you shut down the engine on an M1 tank?

According to the operator's manual for the various M1

PROFILE: M1 ABRAMS MAIN BATTLE TANK

Since its inception in the late 1970s and fielding in early 1980, the M1 Abrams Main Battle Tank and its subsequent configurations have been the focal point of Army combat vehicles. The Abrams is a battle-proven system: in the Gulf War, Iraqi tanks proved no match for the well-designed, hard-hitting Abrams. However, the warfighting prowess associated with the Abrams has not come without a price: since 1982, a total of 38 Class A M1 accidents have been reported Army-wide, with 25 fatalities resulting from those accidents.

From FY98 to the close of FY02, there have been six fatalities resulting from accidents involving the M1; three of those fatalities occurred during FY02, and all three were caused by fires within the tank. When compared to FY01, accidents involving all Army combat vehicles (ACVs) were up 20 percent in FY02, while the 3-year average (FY99-FY02) was up by 50 percent in FY02.

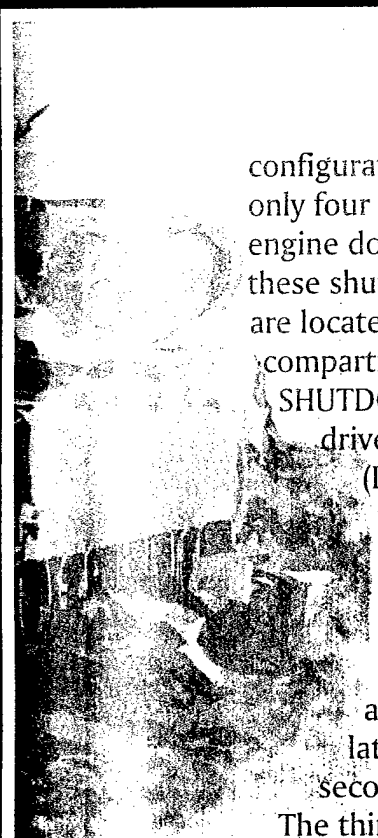
How do we, as soldiers, bring those numbers down and protect ourselves and our equipment? Attention to detail, leader involvement, knowing the standards, and enforcing those standards are the keys to safe operation in the M1 Abrams tank.

An important aspect of safety in the M1 tank, or any piece of Army equipment, lies in the most fundamental and simplest mediums of all: attention to detail and adhering to the technical manual (TM). Follow the instructions—they are provided for a reason. TMs provide not only guidance for proper operation and maintenance, but also list cautions and warnings that can prove invaluable in all phases of operation.

A leader needs to be involved in the operation and maintenance of the tank, as well as the training of the tank crew. Leadership needs to know the standards and adhere to these standards at all times. When a leader deviates from the standard, he has just set a new standard. Leadership must enforce the standards and ensure that tank crews are operating in as safe an environment as possible.

One of the standards that is deviated from most often is uniformity. The armor crewman's uniform is designed to protect the crewman in the environment of the tank. If leaders allow crewmen to not wear items of their uniform, then the leader puts the soldier in harm's way. Leaders owe it to their soldiers to ensure that they are wearing all of their personal protective equipment.

Don't let your M1 series tank become an accident victim. M1 tanks are vital to national security. Your Abrams tank is the finest main battle tank in the world. Let's keep it that way!



configurations, there are only four ways to shut the engine down, and two of these shutdown mechanisms are located in the driver's compartment: the ENGINE SHUTDOWN switch on the driver's instrument display (DID), which is the usual way to shut the engine down; and the ENGINE 2ND SHOT switch on the DID, which will shut the engine down and then, 18 seconds later, discharge the second engine fire bottle.

The third mechanism is the emergency fuel shutoff located in the turret wall. This shutoff is a yellow T-handle that must be pulled out and held until the engine shuts down. After the engine shuts down, the handle must be pushed all the way back in.

The fourth and quickest way to shut down the engine is with the fuel quick disconnect (QD). In order to reach the fuel QD, the turret has to be over the side. The procedure is to open the battery box covers (this allows you to open the top deck grilles), and then open the top deck right grille door. Inside you will see various cable connectors and a red QD. This red QD is the fuel line and, if you pull back on the coupling and turn counter-clockwise, it will disconnect and stop fuel flow to the engine. The engine will subsequently shut down.

Using whichever of the four methods above you choose, always **SHUT IT DOWN** if an accident occurs.

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The T-Handle

Everyone who deals with M1 tanks knows what the T-handle is. For everyone else, it is the bright red fire extinguisher handle on the outside left of the tank. There are a lot of myths about this handle. Some soldiers believe that this handle will shut down the engine. Some soldiers think that after you initiate the 2ND SHOT switch on the driver's instrument display (DID) the 2ND SHOT bottle should go off immediately, and if the 2ND SHOT bottle does not go off by the time they get on the ground, then they should pull the handle.

By pulling the T-handle, the only thing you will accomplish is discharging the 2ND SHOT halon fire extinguisher bottle—nothing more. Pulling the T-handle will not shut down the engine. If the engine is still running when you pull this handle, the halon will most likely be caught up in the airflow created by the transmission oil cooler fans and be ejected out the rear of the tank, with little or no effect.

Moving the FIRE EXTINGUISHER 2ND SHOT switch to the forward position will shut down the engine. The 2ND SHOT bottle will discharge approximately 18 seconds after the FIRE EXTINGUISHER 2ND SHOT switch is moved forward. This time delay is designed to give the engine time to shut down and to reduce airflow, allowing the halon to remain in the engine compartment. If the engine is already shut down and the FIRE EXTINGUISHER 2ND SHOT switch is moved to the forward position, the bottle will discharge immediately.

If the crew evacuates the tank after having moved the FIRE EXTINGUISHER 2ND SHOT switch to the forward position, should they pull the T-handle? If the engine is still winding down, you should let the system work and discharge the bottle electronically. If the engine has completely shut down and the bottle has not yet discharged, then you can pull the T-handle and get the full benefit of the fire suppression system.

M1 tanks can and do burn. The halon system will extinguish most fires if it is used properly. Understanding the tank and the fire suppression system will give the crew and the tank a fighting chance in a tank fire scenario.

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SECONDS COUNT to SAVE LIVES

For soldiers, working in cold weather is a fact of life. At some point, nearly every soldier will be shivering in a tent somewhere in the world. And, as surely as winter comes, soldiers will choose to heat their tents by means of a space heater, stove, or other heating device.

Heat on a cold winter night provides many advantages for soldiers. One major benefit is that soldiers will lose less body heat and conserve more energy while sleeping, potentially improving their performance during the next day.

Despite the advantages inherent with the use of heating devices, unique hazards are also presented to soldiers, especially concerning fire and carbon monoxide poisoning. Fire can engulf a tent in 10 seconds and destroy it in 60 seconds, giving soldiers very little time to react. Conversely, carbon monoxide is odorless, colorless, and tasteless, and can quickly kill soldiers while they are sleeping, as was the case in a previous accident where two soldiers died in their sleep in a tent.

While commercial off-the-shelf (COTS) heaters and stoves may seem to be a good solution for heating problems in the field, soldiers must be trained on proper procedures before using a piece of COTS equipment. For example, locally procured COTS heaters that are unflued or unvented (i.e., no smokestack) vent exhaust fumes, including carbon monoxide, directly into living spaces. In addition, no COTS heaters on the market meet Army requirements for field environments. Standard military heaters, on the other hand, are designed to vent combustion fumes to the outside, are tested for safe field use, and should be used in the place of COTS heaters.

The following heaters are approved for Army use:

- **H-45 space heater (NSN 4520-01-329-3451)**: The H-45 replaces the old potbelly M-1941. Designed to heat the general purpose and TEMPER tents, the H-45 burns liquid and solid fuels.
- **Arctic space heater (NSN 4520-01-444-2375)**: The Artic heater replaces the gasoline-burning M-1950 Yukon heater and is a lightweight, portable heater for 5-man and 10-man arctic tents. The Arctic heater burns liquid and solid fuels.
- **Small space heater (NSN 4520-01-478-9207)**: The small space heater is ideal for use in smaller tents such as the 4-man soldier/crew tent. It burns liquid fuel and has a built-in tank, so no fuel can or stand is needed.
- **Convective space heater (NSN 4520-01-431-8927)**: The convective space heater provides forced hot air for tents and shelters. This heater generates its own power and recharges its battery.
- **Thermoelectric fan (NSN 4520-01-457-2790)**: The thermoelectric fan is a compact, self-powered unit that fits on top of any military tent heater. The fan uses some of the heat to turn the fan blades, which circulate heated air, improve comfort, and save fuel.

To keep soldiers both warm and safe this winter and in all cold weather environments, follow these tips:

- Operate all heaters and stoves in accordance with the applicable technical manual.
- In the event of a tent fire or suspected presence of carbon monoxide, the first and most important task is to evacuate the tent.
- Heating shelters at night requires that a soldier in each shelter be on duty as a fireguard at all times when other soldiers are sleeping in the tent. A fireguard can make use of the time by cleaning his weapon and equipment, washing and shaving, and preparing hot drinks for sentries outside.
- Do not wear wet clothing while sleeping in sleeping bags in an effort to dry them.
- Do not pile combustible materials such as grass and pine needles on the tent floor for insulation, as they can catch flame easily.
- Stoves in tents with wooden floors must be placed in sandboxes.
- Always use the specified type of fuel for the heater or stove you are using.
- Each heating device and all its components must be inspected and cleaned thoroughly before storage and use. Special attention should be paid to checking for leaking valves, holes in gas cans, and proper assembly.
- Secure stovepipe opening covers with tie tapes so the covers will not contact the stovepipe.
- Use enough stovepipe sections so that one complete section is above the highest point of the tent. Ensure that stovepipe sections are vertical and do not contact any part of the tent.
- Be sure to leave enough air space between the tent wall and the heater or stove—if heating devices are situated too closely to the tent wall, they can ignite the tent.
- If the flame is accidentally extinguished, wait until the burner cools before relighting. An explosion could occur.
- Fuel should not be taken inside a tent warmed by fire. The fuel can for the heater must be located outside the tent as far from the tent as the fuel hose allows.
- Do not exchange the heater unit fuel can unless the heater is turned off.
- Do not smoke or drop cigarette butts around combustible materials or go to sleep with a lantern or candle burning.
- Do not open a stove or heater while it is still hot, even after a flame-up has subsided. Fresh air will feed a fire and reignite it.
- Adding water to a gas fire will cause the fire to flame up and spread.

- Do not remove a hot stove or heater from the tent; hot surfaces can contact tent flaps and set them aflame.
- Even in extreme cold, do not operate heaters at full capacity. An overheated stovepipe could ignite the tent, and high temperatures can warp grates and damage other components.
- Provide sufficient ventilation for fresh air to enter the tent at all times.
- Ensure fire extinguishers are available in every tent that has a stove or heater.
- Have a fire plan ready and rehearsed.
- Ensure emergency agencies such as fire departments and paramedics have access to all structures using heaters and other flame sources.
- Do not leave stoves or heaters unattended. As fuel levels decline, pressure drops and the drip valve must be readjusted to maintain the proper flame.
- When lighting a heater or stove, always turn your face away from the chamber door. If a flash occurs, it will most likely happen when the fuel first ignites.
- Keep stoves clean, but always practice safety when doing so! The practice of hitting a stovepipe and pouring in a little water to clean out soot is extremely dangerous; throwing blanks into a burning stove to clean out carbon buildup in the stovepipe is even worse.
- Do not touch heater or stove metal parts when temperatures are below freezing without protective gloves. Skin may freeze upon contact and cleave from the flesh.
- Use caution when handling sharp-edged pipes to avoid cuts.

In any dangerous situation, the first response is to save soldiers' lives—soldiers lose their lives in inches and seconds. In a tent fire, there are no seconds to spare.

Article compiled from the Center for Army Lessons Learned web site, http://call.army.mil, and the October 2002 issue of *PS Magazine, The Preventive Maintenance Monthly*, www.logsa.army.mil/psmag/pshome.html

Kill the Chill—Safely

Soldiers know that extreme caution should be used when firing up a space heater in the field; many tents have gone up in flames as a result of negligence or lack of training. However, what soldiers may not know is that many of the same precautions that apply to using space heaters or other heating devices in the field are also relevant for the home.

Heating devices, specifically space heaters, are the leading cause of home fires during December, January, and February. Two out of every three home fires associated with heating equipment involve devices other than central furnaces or water heaters. When used improperly, space heaters—whether gas- or kerosene-fueled or electric, fixed or portable—can lead to fires, as can wood stoves and fireplaces. Just as in the field, space heaters also present another grave hazard beyond fire: carbon monoxide poisoning. Portable kerosene heaters, which are illegal in some states, have the highest death rate per household. Room gas heaters pose a similar risk of death from unvented carbon monoxide.

In 1998 alone, all forms of home heating caused 49,200 reported fires, 388 deaths, 1,445 injuries, and $515 million in property damage. Typically, these fires occurred because devices weren't cleaned regularly, were placed or installed too close to combustible materials, had basic flaws in construction or design, or were improperly fueled.

To keep your family safe and avoid tragedy this winter, follow these basic safety tips:

- **Space heaters need space.** Portable space heaters need a 3-foot (1-meter) clearance from anything that can burn and should always be turned off when leaving the room or going to sleep.
- **Look for certification.** When buying a new unit, make certain it carries the mark of an independent testing lab. Be sure that a qualified technician installs the unit or checks that the unit has been installed properly.
- **Stay current on cleaning and maintenance.** Wood and coal stoves, fireplaces, chimneys, chimney connectors, and all other solid-fueled heating equipment need to be inspected annually by a professional and cleaned as often as the inspections indicate.
- **Block sparks.** Use a sturdy fireplace screen to keep sparks from flying into the room.
- **Fuel smart.** Portable kerosene heaters must be fueled only in a well-ventilated area free of flame and other heat sources, and only when the device has cooled completely. Use only the type of kerosene specified by the manufacturer for that device, and never use gasoline instead of kerosene. Also, be sure that portable kerosene heaters are legal for home use in your state.
- **Follow the instructions.** When turning a heating device on or off, be careful to follow the manufacturer's instructions. When buying heaters, look for devices with automatic shutoff features.
- **Allow plenty of breathing room.** Be sure any gas-fueled heating device is installed with proper attention to ventilation, and never put unvented gas space heaters in bedrooms or bathrooms. In addition, liquefied petroleum (LP) gas heaters with self-contained fuel supplies are prohibited for home use by National Fire Protection Association (NFPA) codes.

Adapted from NFPA news release, www.nfpa.org

Survive the Dive

What happened?

While a floating repair station was located on a major river for conducting maintenance operations on a dam, a diver was drawn into a water flow field produced by differential pressure and forced through an intake port located on a dam pier. The diver was then pinned by the water pressure in a culvert within the pier. As a result, the diver sustained fatal injuries when he remained within the culvert until the differential pressure was equalized and he was extracted.

Why did it happen?

A number of factors contributed to this accident. The intake shutter that was previously placed over the intake port was not properly seated with the associated lockout/tagout (LO/TO) procedures in accordance with (IAW) published regulations. As the shutter was placed into position below the surface of the water, it stopped its vertical descent and the assumption was made that the intake shutter was properly seated. However, an opening remained between the bottom of the shutter and the lower edge of the intake port. Therefore, when the diver approached the partially covered pier intake port, he was drawn into the water flow field produced by the differential pressure created by the opening and forced through the port and into the culvert.

LO/TO procedures for the manual operation of this dam system were not established to ensure positive control of hazardous energy (water). Therefore, maintenance personnel did not have the necessary procedures to validate that the intake shutter was properly seated. A risk management method was used for this maintenance operation that required coordination between the individual developing the risk management worksheet and others familiar with the operation. However, adequate coordination was not conducted. The need for manual LO/TO procedures was not identified, procedures were not developed and implemented, and the position of the shutter was not verified. Maintenance personnel were not familiar with this dam system, nor were they provided with adequate LO/TO procedures in order to ensure safe operations.

Although a dive plan was developed, the diver was instructed to conduct a task outside the plan. The regulatory guidance directed that a dive must be terminated and a revised dive plan developed and approved by the dive

Mission: Conduct poiree dam caulking operations in preparation for beartrap repair.

Hazards	Controls
Lack of lockout/tagout (LO/TO) training and procedures for the beartrap system	Ensure that LO/TO procedures are established in accordance with (IAW) Engineer Regulation (ER) 385-1-31 in order to control all forms of hazardous energy
	Ensure that personnel responsible for LO/TO receive the necessary training to properly implement LO/TO procedures
Complacency during dive operations resulting in noncompliance with the dive plan	Ensure compliance with Corps of Engineers Lakes and Rivers Louisville Regulations (CELRLR) 385-1-43 for development of the activity hazard analysis
Inadequate coordination during development of the activity hazard analysis	Ensure compliance with ER 385-1-96 by enforcing the responsibilities of the dive supervisor and other dive personnel

coordinator if changes to the dive plan were identified. The diver was directed to check for leaks at the intake port, a task outside the dive plan, by an individual other than the one responsible for supervising the dive. However, the individual responsible for supervising the dive allowed this procedure to occur. Additionally, other caulking procedures were not used at this intake port before a diver entering the water IAW published regulations.

While it did not directly contribute to this accident, a number of other maintenance, procedural, and inspection deficiencies were present for this dive team. The bailout bottles used as an emergency air supply were not hydrostatically tested within the required time period, maintenance records were not available, and there was no dive flag present at the dive site. Regulators on the bailout bottles did not have pressure gages. Although not required, pressure gages allow a diver to check oxygen levels while submerged. Additionally, the primary surface air source was inadequate to support a standby diver if the first diver had a free-flowing regulator.

What to do about it?

1. Comply with regulatory requirements to ensure that LO/TO procedures are developed and available during repair station maintenance operations, and also ensure that the required requisite training is implemented in order to control all forms of hazardous energy.

2. Ensure that risk management is thoroughly planned, to include the necessary coordination, in order to identify hazards and implement the control measures necessary to mitigate the risks associated with repair station maintenance operations.

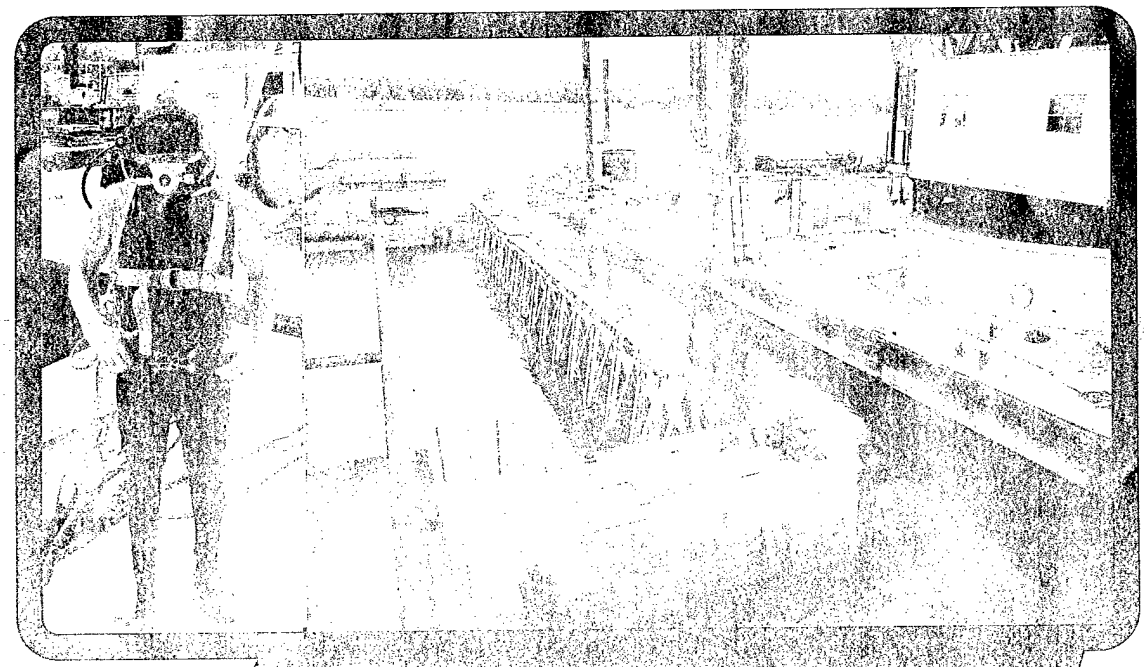
3. Ensure that all dive team members understand their respective responsibilities and comply with the dive plan IAW the published regulatory requirements.

4. Ensure that diving operation inspection programs are in place and conducted IAW published regulatory requirements.

5. Consider an enhanced level of safe diving operations by adding pressure gages to bailout bottles, and by providing an independent air source for the standby diver.

HAVE A SAFE DIVE!

POC: Ground Systems and Accident Investigation Division, DSN 558-3562, (334) 255-3562



RESULT - 1 Fatality

Is It Just a Factor in an M939 Accident

The M939 series 5-ton truck was involved in another fatal accident recently. However, the truck wasn't the lone culprit. Along with the 5-ton were the usual accomplices: wet weather, light loads, poor supervision, no risk management, and no knowledge of existing hazards associated with the M939 series 5-ton.

The Army identified certain hazards associated with the M939 series truck in 1995 and informed units in the field through Ground Precautionary Message (GPM) 96-04. Army leadership applied more controls to reduce hazards by identifying a maximum speed limit of 40 mph in Tank-Automotive Command (TACOM) Safety of Use Message (SOUM) 98-07. This change was incorporated into Technical Manual (TM) 9-2320-272-10, with Change 1.

The Army determined the fix for reducing these hazards across the force was a modification work order (MWO) to place antilock braking systems on the entire M939 fleet. For the basic M939 fleet, the Army also decided to replace existing non-directional, cross-country tires with radials (TACOM SOUM 98-07). Yet, this endeavor is taking time to complete. Until its completion, leaders MUST be informed and proactive about addressing the hazards associated with this common system used by numerous units across the Army EVERY time they use it.

Despite these efforts, units continue to operate M939 series vehicles in the very conditions the messages warn against. Leaders must know the hazards associated with the environments they are operating in and address them through appropriate control measures. The known hazards are:

Driving too fast for conditions.

Until the MWO is complete, M939 trucks are not to be driven above 40 mph, which means 40 mph is the extreme limit. Driving too fast for conditions creates an environment for compounding the effects of the other hazards listed below. Unit leaders must evaluate and re-evaluate the conditions the truck will be used in and apply the appropriate controls.

Applying excessive pressure to the brake pedal.

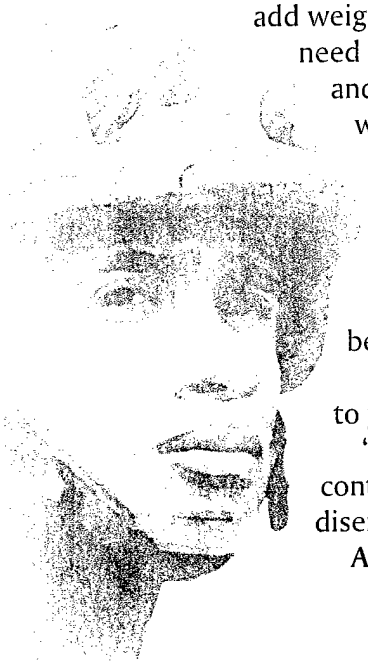
Tailgating can create an extremely hazardous condition when drivers overreact to vehicles braking to their front. Over-braking can lock up the wheels, causing the engine to stall. This can lead to loss of control of the vehicle.

Operating on asphalt roads in damp or wet conditions.

Damp or wet conditions contribute to the vehicle losing traction when the brakes are applied suddenly and with too much pressure. Drivers must slow down when damp or wet conditions exist, and leaders MUST re-evaluate the need to operate the truck in these conditions and, at a minimum, implement additional control measures and inform their drivers of the increased risks.

Operating with light loads on asphalt roads.

The M939 series truck was developed for heavy loads and off-road conditions. The accidents we see so often are M939 series trucks operating on asphalt roads. The trucks are generally hauling cargo on or around post, or they are hauling soldiers to and from training and details (see Army Regulation (AR) 385-55, *Prevention of Motor Vehicle Accidents*, for guidance on hauling soldiers). This does not mean you need to



add weight to the truck to operate it safely, but it does mean that leaders need to recognize the increased risk of operating in these conditions and enforce speed limits and safe distances between vehicles, as well as inform drivers of the increased risks. Information and knowledge about the system is half the battle of operating any equipment safely. Soldiers will not know if leaders do not.

Other hazards.

In addition to the ones listed above, the following hazards must be considered:

Tailgating. Leave enough room between yourself and the vehicle to your front to brake correctly and safely.

"Cruise control." Do not use the hand throttle as a "cruise control." When used in such a manner, the hand throttle will not disengage when the brakes are applied.

Air pressure. Do not let air pressure get below 60 psi.

Briefly, I will lay out the existing conditions of the most recent accident and let you, the reader, do the risk assessment.

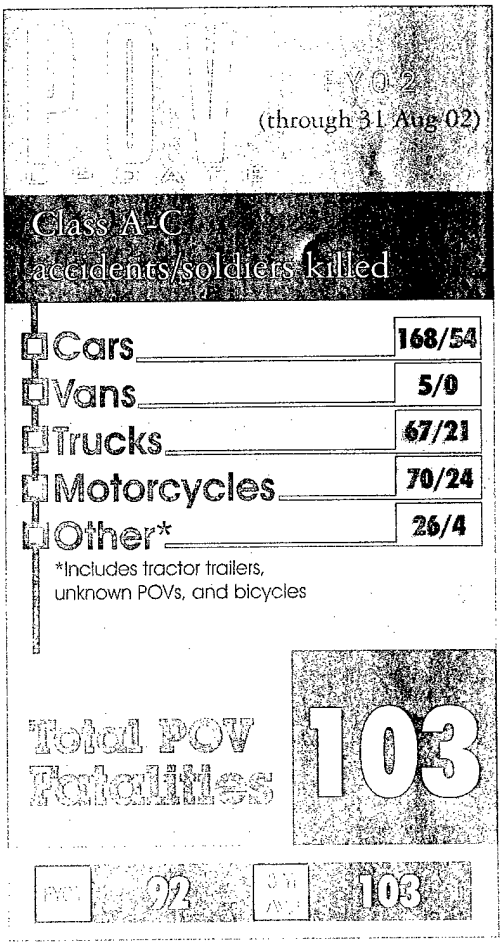
A junior NCO was tasked with responsibility for supervising a detail at a remote location. He was given this task on Friday for a Monday execution. The detail was to last for two weeks and consisted of soldiers from three separate platoons. The battalion and company assigning the mission were reacting to late taskings. In addition, none of the soldiers involved in the detail knew of the existing hazards associated with the M923A2. Their TM was dated 1984. The original truck was deadlined during the conduct of the detail. The soldiers received another truck dispatched by another driver. The driver and TC had minimal experience on the M923A2. The driver was a SPC, and the TC was a PFC. The truck had inoperable windshield wipers.

The NCO did not go to training with his detail on the day of the accident—he met them later and he drove his POV. No leaders applied the principles of risk management to this detail. They considered it routine.

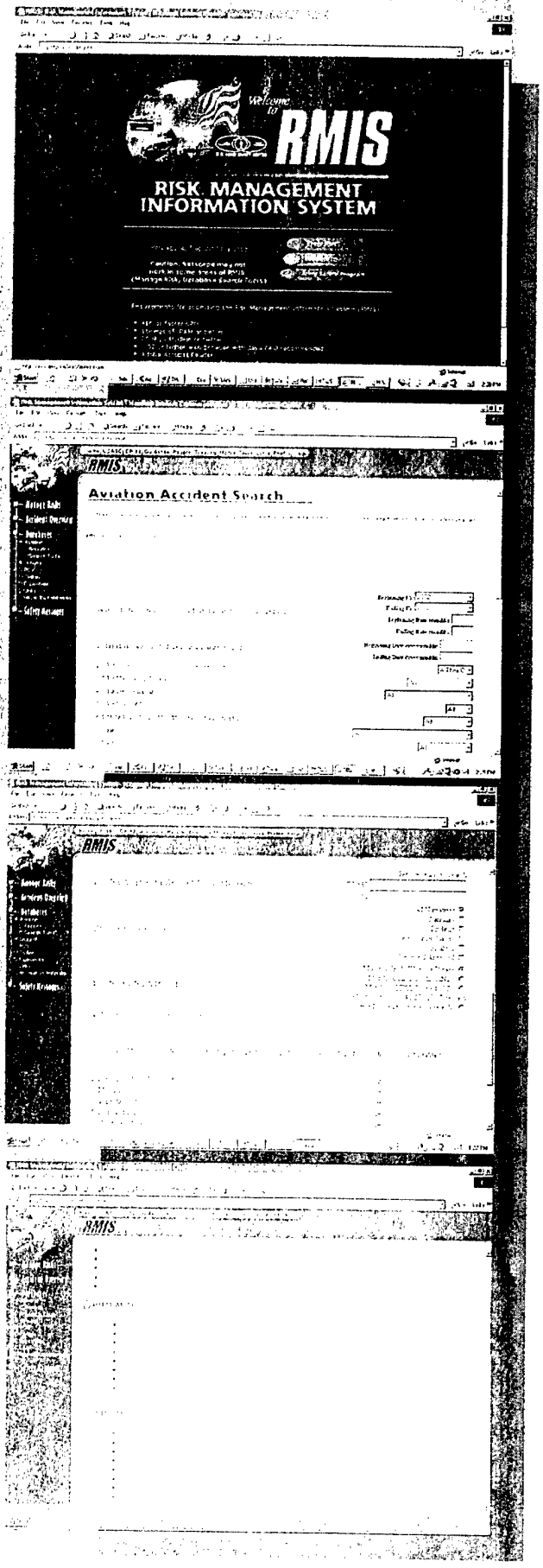
The truck was following the NCOIC back to main post on an asphalt road. The weather was wet and damp. The NCOIC was following a bus when the bus driver applied his brakes. The NCOIC applied his brakes, followed by the driver of the M923A2. The vehicle started skidding and left the roadway. It overturned, killing the driver and two passengers in the back of the truck. The TC and one passenger in the rear of the truck were ejected during the accident sequence and sustained minor injuries.

Given this scenario and the information provided above, this accident was predictable, but it was also PREVENTABLE. We know the hazards associated with the M939 series 5-ton truck. Identify those hazards, acknowledge them, address them, and elevate them to the appropriate authority to get a decision. Then have a safe day.

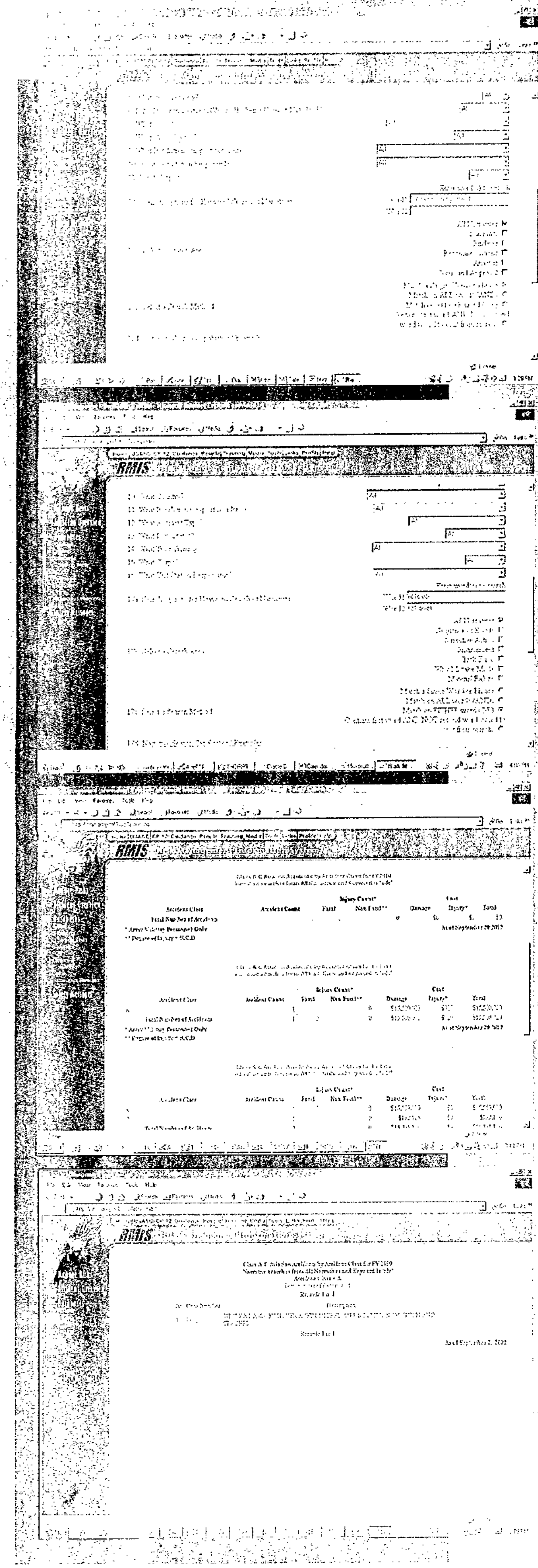
POC: Ground Systems and Accident Investigation Division, DSN 558-3562, (334) 255-3562



USASC Announces New



Interactive Feature



This database search engine is case insensitive; for example, you can enter "tank," "Tank," or "TANK." You also can use wildcard matches, such as the "%" sign. In addition, the system can normalize known misspellings and uses word derivations such as "destroy," "destroys," or "destroying." The third part of the search question allows for compound or Boolean-type queries such as "and," "or," or "not." The second example on the left shows a search on the words "rollover" and "roll over" using the "OR" query for either of these two words to be found in the narrative text.

The [illegible] part of the query question allows you to select what type of narrative to use for the search; the default is "All Narratives." You can select more than one type of narrative [illegible] "All Narratives." Be aware that if you [illegible] the result time could be quite long. Additionally, the query may return records where the text is found in [illegible] type of narrative [illegible] and the narrative type that currently displayed on the web report form on the screen. Future improved web report forms will provide more block and narratives from all of the various accident reports.

The grouping of records returned from the search are then displayed on the next page in [illegible] based on the options you selected on the previous [illegible]. [illegible] subsequently narrow down to specific [illegible] records of interest by selecting the number in the [illegible] "Accident Count."

The [illegible] [illegible] the [illegible] description of the accident. The next [illegible] of [illegible] [illegible] fields [illegible] short description [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Windows Explorer [illegible]

Passenger Capacity Reminder

The passenger-carrying capacities listed in the table below are for normal passenger-carrying operations and are consistent with safety policies and design features of the vehicles. The passenger capacities apply only when the vehicle is properly equipped with permanent or temporary seats (refer to Army Regulation (AR) 385-55, *Prevention of Motor Vehicle Accidents*, if there is any doubt).

Passengers who are not crew members and are carried in the cab of the vehicle are limited to the number of available seatbelt positions.

The passenger capacity of sedans, vans, station wagons, and other administrative vehicles is limited to the number of seatbelt positions.

Refer to the operator's manual and AR 385-55 for vehicles not listed.

Do not crowd passengers on bench-type seats in cargo beds. Unless specified by local policy, passengers can be transported on post without fixed seats for short distances (under 10 miles), provided that each passenger remains seated wholly within the body of the vehicle and the body is equipped with stakes or sideboards.

The driver, as well as the TC and senior occupant, is responsible for the safety of the personnel riding in their vehicle. Drivers will refuse to move a vehicle if anyone is in an unsafe position or the vehicle has too many passengers.

Derived from Technical Bulletin (TB) 9-639, *Passenger-Carrying Capacity of Tactical and Administrative Vehicles Commonly Used to Transport Personnel*, 9 November 1988

Vehicle Type	Passenger Capacity
2 1/2-ton Cargo Truck	14
2 1/2-ton Extended Cargo Body Truck	18
2 1/2-ton Dump Truck	10
5-ton Cargo Truck	16
5-ton Extended Cargo Body Truck	20
5-ton Dump Truck	12
5/4-ton HMMWV Troop Carrier	8
5/4-ton HMMWV Cargo/Troop Carrier	4
5/4-ton M880, M881, or M882	8
Semi-trailer Personnel Van	80

NOTE: The passenger capacity listed above does not include the operating crew.

AAFES Halts Sale of Ephedra

The *Stars and Stripes* recently reported that the Army and Air Force Exchange Service (AAFES) began pulling all supplements containing the natural stimulant ephedra from store shelves "due to recent concerns from major commands within the military community," according to AAFES spokesman Fred Bluhm. Last spring a soldier at Fort Hood, Texas, died during physical training from an apparent heart attack. According to a base memo, the soldier was likely taking a nutritional supplement containing a combination of ephedra and caffeine. Another Fort Hood soldier on a similar supplement was recently treated in the emergency room there for a heat-related injury during physical training.

The safety of ephedra is widely debated. Ephedra is a natural herb that gives the body an energy boost, and caffeine prolongs the burst, speeding up metabolism, depressing appetite, and increasing heart rate, which leads to weight loss. According to Staff Sgt. Peter Burriesce, an aerospace physiologist with Yokota's 374th Medical Group, "It gets the heart rate up, holds it there for a long period of time." The physiological response is similar to the effects of running, except much less oxygen is produced. If ephedra is taken in too large a quantity, the result can be stroke or a cardiovascular shutdown, Burriesce said.

Adapted from military.com press release, www.military.com

Alert Issued for Protective Suits

Any service members issued chemical protective suits for possible action in Iraq may want to check the package to make sure they are not among 250,000 potentially defective garments that remain unaccounted for.

If the label says the suit was made by "Isratex," or if it has a lot number of either DLA100-92-C-0427 or DLA100-89-C-0429, soldiers may want to ask for a different set of protective garments.

All garments made by the now-bankrupt Isratex company have been recalled. In a recent hearing, members of the House Government Reform Committee expressed concern about the possibility that troops heading for Iraq could end up with the flawed suits.

Department of Defense officials have said they have no evidence the suits have been destroyed and no way to track them if they have not been destroyed. However, logistics experts believe the missing suits have long since been used for training, then discarded.

The suits are packed in sealed packages that are supposed to clearly show the lot number, manufacturer, and date of production. Officially called battle dress overgarments, the suits were made by Isratex in 1989 and 1992 in both desert and woodland camouflage patterns.

The chemical protective suits passed initial quality-control screening, but in 1999 underwent rigorous testing in preparation for court action against Isratex management. At that time, inspectors found seven "critical" defects in a sample of 500 units. The defects included holes or poor stitching. Whenever a single critical defect is found in suits, the entire lot must be removed from combat inventories. The defects were found in the 1992 suits—lot number DLA100-92-C-0427. Suits made in 1989—lot number DLA100-89-C-0429—have passed all quality-control inspections, but have also been recalled because they were made by Isratex.

The suits are used mainly by the Army and Air Force, which scoured their overseas inventories in 2000 after news reports about the potentially defective garments.

Adapted from *Army Times* news release, www.armytimes.com

Turn the Defroster Off

M1 tankers, do you have a problem with frost on the eyepiece of your gunner's primary sight (GPS)? Just flip on the GPS defroster. In a few minutes your problem will clear up. But if you forget to turn off the defroster, you will have a new problem.

The defroster does not turn itself off when the frost is gone—it keeps right on running. And a long-running defroster will overheat and crack the daylight window on the GPS.

So, this winter season, when the frost is gone, be sure to turn off the defroster.

Adapted from the October 2002 issue of *PS Magazine, The Preventive Maintenance Monthly*, www.logsa.army.mil/psmag/pshome.html

4th Quarter Safety of Use and Ground Precautionary Messages

The following is a list of selected safety of use messages (SOUMs) and ground precautionary messages (GPMs) issued by the Army Tank-Automotive Command (TACOM) and Communications and Electronics Command (CECOM). Complete copies of the SOUMs and GPMs are available on the Army Electronic Product Support Bulletin Board via their Internet web site at http://aeps.ria.army.mil/.

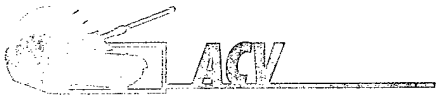
SOUM-02-007, MSG 231928ZJUL02, subject: NBC system protection system for all Abrams tanks M1A1, NSN 2350-01-087-1095, T13168, and M1A2/M1A2 SEP, NSN 2350-01-328-5964, T13305. POCs: Ms. Berniece Dubay, DSN 786-8215, (586) 574-8215, e-mail dubayb@tacom.army.mil; and Mr. Murad Khan, DSN 786-6743, (586) 574-6743, e-mail khanm@tacom.army.mil.

SOUM-02-008, MSG 261421ZJUL02, subject: NBC system protection system for all Abrams tanks M1A1, NSN 2350-01-087-1095, T13168, and M1A2/M1A2 SEP, NSN 2350-01-328-5964, T13305. POCs: Ms. Berniece Dubay, DSN 786-8215, (586) 574-8215, e-mail dubayb@tacom.army.mil; Mr. Murad Khan, DSN 786-6743, (586) 574-6743, e-mail khanm@tacom.army.mil; and Ms. Barb Hawotte, DSN 793-6609, (309) 782-6609, e-mail hawotteb@ria.army.mil.

SOUM-02-009, MSG 241838ZSEP02, subject: Hydraulic pump case drain quick disconnect (QD), part number 12467260, NSN 4720-01-473-3069, for all Abrams tanks M1, NSN 2350-01-061-2445, T13374; M1A1, NSN 2350-01-087-1095, T13168; and M1A2/M1A2 SEP, NSN 2350-01-328-5964, T13305. POCs: Ms. Berniece Dubay, DSN 786-8215, (586) 574-8215, e-mail dubayb@tacom.army.mil; and Mr. Jack Phillips, DSN 786-2374, (586) 753-2374, or e-mail phillija@tacom.army.mil.

SOUM-02-010, MSG 251853ZSEP02, subject: XM104 Wolverine, heavy assault bridge, LIN H82510, NSN 5420-01-430-5403. POCs: Mr. Ken Foster, DSN 786-5557, (586) 574-5557, or e-mail fosterk@tacom.army.mil; Ms. Donna Morgan, DSN 786-5213, (586) 574-5213, or e-mail morgand@tacom.army.mil; Mr. Jon Taylor, DSN 786-6056, (586) 574-6056, or e-mail taylorj@tacom.army.mil; LTC Thomas Svisco, DSN 786-7586, (586) 574-7586, or e-mail sviscot@tacom.army.mil; Mr. Mike Athey, DSN 738-7731, (254) 288-7731, or e-mail atheym@hood-emh3.army.mil; and Ms. Barb Hawotte, DSN 793-6609, (309) 782-6609, or e-mail hawotteb@ria.army.mil.

GPM-02-022, MSG 111336ZJUL02, subject: XM104 Wolverine, heavy assault bridge, LIN H82510, NSN 5420-01-430-4227. POCs: Mr. Ken Foster, DSN 786-5557, (586) 574-5557, or e-mail fosterk@tacom.army.mil; Ms. Donna Morgan, DSN 786-5213, (586) 574-5213, or e-mail morgand@tacom.army.mil; Mr. Alex Bodner, DSN 786-7586, (586) 574-7586, or e-mail bodnera@tacom.army.mil; and Mr. Mike Athey, DSN 738-7731, (254) 288-7731, or e-mail atheym@hood-emh3.army.mil.



Class C

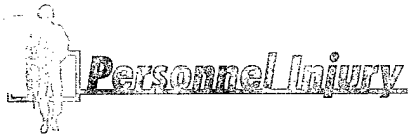
Soldier sustained minor injuries to his arm after the Howitzer he was riding in pitched to one side on a muddy tank trail, knocking SM (the track commander) into a nearby tree. SM's arm was caught between the tree and the Howitzer.

Soldier sustained bruising to his ribs when the M1068A2 he was riding in pitched to the right. SM's injuries were caused when he was knocked against the track commander's hatch rail.

Class C

Soldier received minor injuries to his right leg when the HMMWV he was riding in hit a bump, throwing SM against the .50-cal mount and gunner's hatch.

Soldier received minor back injuries after he slipped and fell approximately 6 feet from the hood of a 5-ton truck. SM had been conducting maintenance on the truck and had maintained three points of contact on the truck up to the time of the accident.



Class A

Soldier drowned after jumping off a boat during off-duty hours. SM had reportedly been drinking before the accident.

Soldier had just completed PT test and was cooling down when he passed out. SM was taken to the local hospital, where he was pronounced dead.

Soldier had just completed the run portion of his APFT when he collapsed on the track. SM was pronounced dead by paramedics.

Soldier collapsed after conducting PT indoors on his unit's treadmill. SM was transported to the local hospital, where he died a short time later. SM had shown signs of chest pains before collapsing.

Class B

Soldier was participating in an FTX when he was struck in the groin area by a star cluster, resulting in a PPD injury.

Class C

Soldier received burns when he tossed an anti-tank weapons effects signature simulator (ATWESS) training device. SM was burned when he lit exposed powder from the ATWESS device with a match.

Soldier received fractures to his ankle while attempting to avoid an animal during a training exercise.

Soldier sustained a laceration to his forehead when he hit a 1270 communications modem in his shelter. SM was in the process of securing his LBV and Kevlar at the time of the accident.

Soldier sustained minor injuries to his ankle when he jumped from a generator he had been refueling. SM failed to maintain three points of contact with the equipment.

Soldier received injuries to his head when he leaped from the stairs outside his barracks and hit a crossbar supporting an overhead awning. SM fell backwards and hit his head on the concrete steps, causing a blood clot that required surgery.

Soldier sustained fractures to his coccyx after he failed to conduct a proper parachute landing fall during a non-tactical day Hollywood jump.

Civilian cut her middle finger while cutting a plastic foil-wrapped pallet with a knife.

Soldier sustained injuries to his head after he collided with a pedestrian while riding his bicycle.

Soldier received a broken toe and a laceration after the front leg of an M149A1 water trailer collapsed and struck her left foot.

Soldier sustained minor injuries to his head after he hit an environmental conditioning unit after coming off break.

Class A

Soldier was killed when the motorcycle he was operating struck a POV turning left into his path.

Two soldiers were killed when the POV they were riding in left the roadway, struck a guardrail, and overturned.

Soldier was killed when he lost control of his POV due to hydroplaning and it struck another vehicle. SM was ejected from the vehicle.

Information based on preliminary reports of ground accidents.

ALWAYS

SHUTDOWN

If an accident occurs

4 Ways to Shut the M1 Engine Down

ENGINE SHUTDOWN switch on the driver's instrument display (DID)

ENGINE 2ND SHOT switch on the DID

YELLOW T-HANDLE emergency fuel shutoff located in the turret wall

FUEL QUICK DISCONNECT (QD), the quickest way to shut down an M1 engine